Strategic Value Analysis for Integrating Renewable Resources to Help Meet California's RPS Goals

IEPR Workshop

July 1, 2005

California Energy Commission

Today's Agenda: Morning

- *Welcome & Opening Comments (Commissioners)*
- *Review of Agenda & Participants*
- *Overview of SVA Approach & Processes (G. Simons: CEC)*
- *SVA Results with Separate Renewables (CEC)*
  - *Geothermal: E. Sison-Lebrilla*
  - *Wind: D. Yen-Nakafuji*
  - *Biomass: V. Tiangco*
  - *Solar: G. Simons*
- *Combined & Optimized Renewable Mixes: R. Davis (DPC)*
- *LUNCH*

Today's Agenda: Afternoon

- *Examples of Similar Approaches*
  - *Bay Area: S. Price (E3)*
  - *Chino Basin: H. Zaninger (ZECO)*
- *Renewables Transmission Planning within Bid Procurement Process*
  - *CPUC Perspective: B. Schumaker (CPUC)*
  - *Cal ISO Perspective: J. Miller (Cal ISO)*
  - *IOU Perspectives:*
    - ✓ *SCE: J. Chacon*
    - ✓ *PG&E:C. Thomas*
    - ✓ *SDG&E: J. Cloverdan*
  - *Public Utility Perspective*
    - ✓ *SMUD: M. Batham*
  - *Findings from the Tehachapi Study Group: D. Olsen*
- *Discussion & Public Comments*
- *Conclusions*

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Purpose of SVA Study

- ***Originally intended to help target renewable energy research***
  - ***Performance, costs and locations of renewables***
  - ***Focused on renewable DG applications at distribution levels***
  - ***Only went out to 2010***
- ***SVA expanded and extended after RPS enacted***
  - ***Included bulk renewables and transmission levels***
  - ***Extended out to 2017***

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Approach

- ***Identify links between electricity needs in the future with available renewable resources***
- ***Investigate and evaluate development and deployment of renewables based on their abilities to provide benefits to:***
  - ***Electricity system***
  - ***Environment***
  - ***Local economies***
- ***Target research needed to help achieve goals***

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Five Step Methodology

- ***Identify, quantify and map electricity system needs out through 2017 (capacity, reliability, transmission)***
  - ***Selected years (2003, 2005, 2007, 2010 & 2017)***
- ***Identify and map out renewable resources***
  - ***Wind, geothermal, solar and biomass***
- ***Project environmental, cost and generation performance of renewable technologies through 2017***
  - ***Projections developed by PIER Renewable staff; corroborated by work done by EPRI, NREL and Navigant***
- ***Conduct combined GIS and economic analyses to examine a "best-fit, least-cost" approach***
- ***Develop RD&D targets that help drive forward renewables capable of achieving identified benefits***

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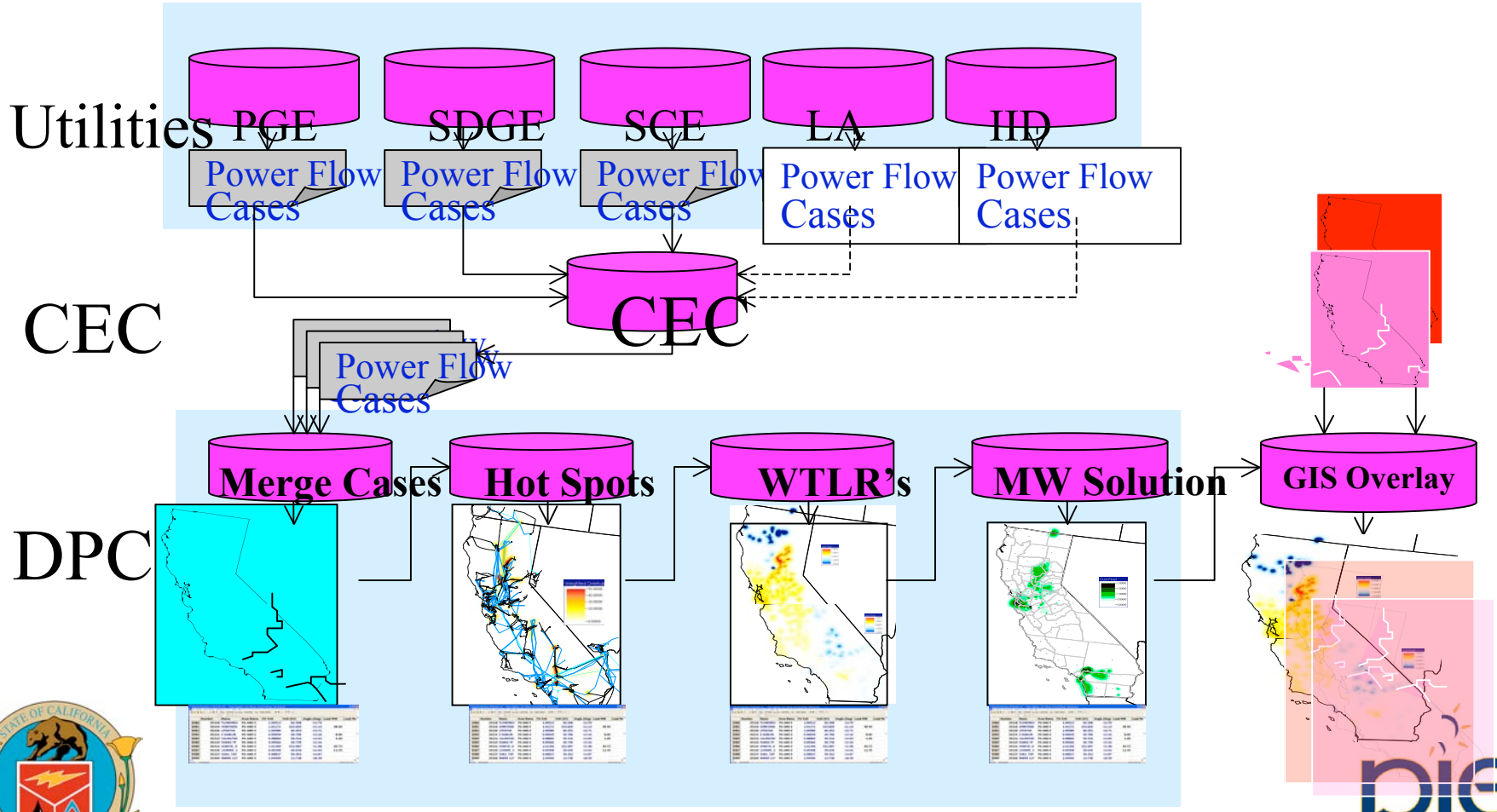
Visual Depiction of Approach



Possible Discussion Items

- ***Is the SVA a valid & reasonable approach for assessing the state's ability to meet the RPS goals and determining the impact on the grid?***
- ***Does CA have sufficient renewable resources to meet the RPS goals?***
- ***Are cost estimates reasonable? If not, are there other reasonable cost estimates we should be looking at?***
- ***Are the timeframes for development & deployment as provided reasonable, and if not, why and what are reasonable timeframes?***
- ***Is the blend of renewables presented appropriate and if not, what would be better blends (or what have we missed)?***
- ***Do you believe the transmission evaluation methods are appropriate and reasonable?***
- ***What additional analyses are needed to better understand the state's ability to meet the RPS goals?***
- ***What approaches should be used to take into account transmission needs and opportunities when conducting renewables procurement for the RPS?***

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